Defense Information Systems Agency

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World Radiocommunication Conference (WRC-12) Update

Chief, International Branch
Defense Spectrum Organization (DSO)
14 December 2011

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Disclaimer

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Overview

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- **International Telecommunication Union (ITU)**
- ***Review & Revise Radio Regulations – Treaty Status***
- **191 ITU Member States**
- **Operates by Consensus – Rarely vote**
- **Coordinate through Regional Groups – U.S. is part of CITEL**
- **Influence through Alliances**
- **Next WRC scheduled for 23 Jan- 17 Feb 2012 in Geneva: U.S. Ambassador S. Decker Anstrom to lead the 100+ member U.S. delegation**

European Conference of Postal and Telecommunications Administrations

Regional Commonwealth in the field of Communications

Inter-American Telecommunication Commission

Arab Spectrum Management Group

African Telecommunications Union

Asia-Pacific Telecommunity

Alliances

NATO CCEB

Each Nation has Sovereignty Over the Use of its Spectrum!

DSO leads DoD strategy development and coordinates preparation of and engagement in the WRCs

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The High Stakes for DoD

- **WRC decisions directly affect allocations in all countries where US military systems operate**
- **DoD faces growing pressures to reallocate spectrum away from military uses for commercial broadband**
  - **WRC-12 will tee up reallocation efforts by industry for the next decade**
- **Radar spectrum is vulnerable to constant pressure for reallocation out of lower bands, to make way for mobile services**
  - **DoD is working to obtain a new primary allocation for radar in the 15.4-15.7 GHz band, giving U.S. military radars significantly increased capabilities**

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The High Stakes for DoD (cont'd)

- **Future agenda items are particularly crucial at WRC-12**
  - **Other countries are seeking broadband allocations exceeding the 500 MHz currently being implemented in the U.S.**
  - **There are also proposals for FSS uplink allocations that could impact DoD spectrum usage**

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High-Priority DoD WRC-12 Agenda Items

AI	Subject	Summary
1.2	Enhancing the regulatory framework	Complex AI seeking to alter regulatory language to accommodate emerging technologies – U.S. & DoD oppose changes
1.3	Unmanned aircraft systems (UAS)	Complex AI to establish allocation for the safe operation of UAS
1.4	New aeronautical mobile (R) service (AM(R)S)	Seeking to facilitate the introduction of new safety of life allocations for radio local area network at airports
1.5	Electronic news gathering (ENG)	Examining methods to provide ENG users and manufacturers frequency lists for worldwide use
1.15	HF oceanographic radar (3-50 MHz)	Provide oceanographic radars a regulatory status
1.21	Radar allocation at 15 GHz	Establish a primary allocation for radars (15.4-15.7 GHz) complicated by international interests in other AIs in the same band
1.25	New mobile satellite allocation	Study the potential for new Mobile Satellite Service allocation – results of studies have limited international support
7	Satellite Network Filings	Complex multi-faceted AI examining regulatory changes to the satellite network filing procedures: DoD key issue is maintaining flexibility in the satellite Network notification process – European's in opposition
8.2	Future WRC agenda items	Defines work of future conferences – primary issue is broadband wireless access
Yellow	= covered in this briefing	

WRC-12 has a total of 33 Agenda Items
Nine are considered high priority to DoD

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AI 1.3 – Unmanned Aircraft Systems (UAS)

- Considers the safe operation of civil UAS in non-segregated airspace
  - Covers Terrestrial (LOS) and Satellite (BLOS) Command & Control (C&C); sense & avoid (S&A) radar functions

- **Ties to AIs 1.21 and 1.25 – all seeking spectrum in same 15 GHz band**
- **DoD Impact:**
  - Additional regulatory restrictions may impact DoD UAS operations
  - Could require additional equipment on platform
  - Conflicts with DoD objectives for 15 GHz radar
- **DoD Goals: obtain regulatory status for UAS**
  - Satellite: prevent safety-of-life allocation in Fixed Satellite Service (FSS) bands
  - Terrestrial: gain additional spectrum in 5030-5091 MHz

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AI 1.3 – UAS (cont.)

- **Regulatory status benefits UAS operations:**
  - **Reduces transit time and Increases fuel efficiency**
  - **Reduces interference issues**
  - **Increases training and operational readiness**
  - **Reduces possibility for civil aircraft incidents**
- **International Opinion:**
  - **Satellite: supports safety-of-life (Europe, Asia, Mideast)**
  - **Terrestrial: widespread support for 5030-5091 MHz**
  - **S&A: Internationally agreement supporting no change**
  - **Some support for UAS satellite in 15 GHz band (Europe)**
  - **Some discussion of continuing satellite studies**

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AI 1.21 – 15 GHz Radar

- **Establish primary allocation for radar in the 15.4-15.7 GHz band**
- **DoD Impact:**
  - **Provides contiguous 1.9 GHz total radar spectrum for DoD operations (15.4-17.3 GHz)**
  - **DoD needs allocation to enhance its current and future Synthetic Aperture Radar (SAR) capabilities**
- **DoD Goal: Gain 300 MHz bandwidth for radar**
- **Additional bandwidth benefits civil & military users:**
  - **Humanitarian aid & disaster relief efforts**
  - **Increased accuracy & image resolution**
- **International Opinion:**
  - **Competing interests under AIs 1.3 &1.25**

Only WRC-12 Agenda Item originated by U.S. DoD

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AI 8.2 – Future AIs: Broadband Wireless Access

- **Additional spectrum for BWA & International Mobile Telecommunications (IMT)**
- **Expected to be one of DoD's most critical WRC-15 items**
  - **Wireless industry pushing for globally harmonized IMT bands**
  - **Complements U.S. National Broadband Plan and Presidential Memo for finding 500 MHz of spectrum over 10 years**
  - **Relocation on an international scale will require extensive DoD resources**
- **DoD Impact: DoD spectrum assets in frequencies below 6 GHz may be threatened**
- **DoD Goal: limit frequency ranges to be considered, in order to minimize the threat to DoD equities**

AI 8.2 – Future AIs: FSS

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- **Examine additional FSS uplink spectrum to balance FSS spectrum in Region 2 and 3**
  - **Region 2 (CITEL) is short 200 MHz**
  - **Region 3 (APT) is short 300 MHz**
  - **Region 1 (CEPT) is balanced**
- **U.S./DoD Position: support new allocation of 200 MHz in Region 2 between 10-16 GHz**
  - **No modification to existing sharing conditions in the 13.75-14.0 GHz band**
- **DoD Impact: could Affect the Common Data Link (CDL), Radar systems, UAS, and military satellites**
- **Worldview:**
  - **Region 2 proposing to examine 10-16 GHz for the FSS uplinks**

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During WRC – 2012

- **DoD provides the U.S. WRC Ambassador technical support and regulatory guidance on DoD issues**
  - **DoD is a member of the Ambassador's Core delegation**
- **DoD will have significant presence at WRC-12**
  - **15 DoD Government employees are members of WRC-12 Delegation as Spokespersons**
  - **Several supporting contractors**
- **Senior-level VIPs**
  - **DoD CIO**
  - **DISA Director**
  - **DoD CIO Director of Spectrum and Communications Policy**
  - **DSO Director**

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During WRC – 2012

- **What to Expect During the Conference**
  - **Fast-paced - decisions are made in hours rather than days**
  - **DoD delegates will be reaching back to the States for support**
- **DoD WRC-12 Home Team**
  - **Led by DoD CIO Spectrum & Communications Policy Office**
  - **Coordinates reach back support from Military Services and others for WRC-12 Delegation**

Responsive Home Team is CRITICAL to WRC success

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After WRC – 2012

- **Conference Preparatory Meeting 2015-1 (CPM-15-1) takes place immediately following WRC-12**
- **CPM-15-1 establishes agenda and work program for WRC-15**
- **Once agenda is established DoD begins studying the impacts and establishing official positions**
- **Begins the domestic process of establishing positions**
- **WRC-15 will be fast and intensive, since cycle is only 3 years compared to 5 years prior to WRC-12**

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Summary

- **The decisions made at WRC-12 WILL impact DoD spectrum equities – specifically UAS and SAR**
- **DoD/DSO engaged – large presence at the WRC**
- **Outreach and negotiations continue up-to and during the WRC**
- **Home Team support will be crucial to success**
- **Challenges will continue in WRC-15 – BWA shaping up to be a major player**

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